

striae; base of the second tergite longitudinally aciculate; most of the second and all of the remaining tergites smooth, polished; mesepisternum smooth; sides of the propodeum sculptured like the posterior face; second abscissa shorter than the first intercubitus; recurrent slightly beyond the intercubitus. Black; mandibles, three basal joints of antennae and the legs yellow; wings hyaline, venation pale brown, stigma somewhat darker.

Male.—Length 2 mm. Agrees well with female except the second tergite is yellowish.

Type-locality.—Syracuse, New York. Described from five females and one male collected by M. W. Blackman and H. H. Stage from *Hicoria glabra*, and recorded under their numbers H-107 (1 type), H-608, H-1141, H-118 and H-608a (allotype).

Type.—Cat. No. 22031, U. S. Nat. Mus.

NEW NEARCTIC CRANE-FLIES (RHYPHIDÆ AND TIPULIDÆ, DIPTERA) PART VII.

BY CHARLES P. ALEXANDER, STATE LABORATORY OF NATURAL HISTORY, URBANA,
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FAMILY *Rhyphidæ*.

Trichocera colei, new species.

Thoracic stripes indistinct; wings light grey, yellowish at the base, a faint brown cloud on *r-m*; male hypopygium conspicuously enlarged.

Male.—Length, including the hypopygium, about 7–7.5 mm.; wing 6 mm.

Rostrum and palpi dark brown. Antennae of the male setaceous, black. Head dark grey.

Mesonotum brownish grey without distinct stripes, the posterior half of the scutellum yellowish; postnotum dark. Pleura dark brown, sparsely grey pruinose. Halteres pale, the knobs dark. Legs light brown, the coxæ, trochanters and bases of the femora paler. Wings with a faint grey tinge, the base of the wing yellowish; stigma brown, diffuse; a brownish cloud on *r-m*. Venation: *Sc* ending slightly before *r*; R_{2+3} a very little longer than R_2 before *r*.

Abdomen dark brown, the incisures paler. Male hypopygium conspicuous, very large for this genus of flies. Pleurites with a group of setae near the distal end on the inner face. Pleural appendage longer than the pleurite, at the apex enlarged into a blackened lobe which is densely covered with short, erect, yellowish hairs; on the dorsal inner face near the base of this lobe, a slender cylindrical arm. Penis-guard broad at the base, rapidly narrowed to the blunt tip. Gonapophyses in the form of two strongly divergent chitinized horns.

Habitat.—Oregon.

Holotype.—♂, Forest Grove, Washington Co., November 11, 1918, (F. R. Cole). Type in the collection of the author. *Paratype*.—♂, Vancouver, Washington, Dec. 12, 1918, (Wm. Giles); reared from turnips. In the collection of the U. S. National Museum, Chittenden, No. 2772.

The conspicuous male hypopygium will easily separate the fly from any of the known American species. The species is dedicated to Mr. Frank R. Cole to whom I am indebted for many favours.

FAMILY *Tipulidæ*.**Gonomyia (Gonomyia) mainensis**, new species.

Related to *G. subcinerea* O. S.; thoracic pleura striped; abdominal tergites dark brown; male hypopygium with the outer pleural lobe rather short with its apex obliquely truncated; inner lobe bifid, with a posterior flattened blade.

Male.—Length about 5 mm.; wing 5.6 mm.

Head dark, discoloured in the type. Antenna broken.

Pronotum clear light yellow. Mesonotal præscutum pale brown, with three indistinct, dark brown stripes, the lateral margins light coloured; scutum pale brown, the lobes dark; remainder of the mesonotum brown. Pleura light yellow with two distinct, purplish brown stripes, the ventral stripe occupying the mesosternum. Halteres very long and slender, pale, the knobs darkened. Legs with the coxæ dull brownish yellow, darkened on the base of the outer face; remainder of the legs light brown, the tarsi darker. Wings with a faint greyish tinge; stigma darker; veins dark brown. Venation: *Sc* rather long, ending opposite about one-third the length of the radial sector; *Rs* very long, straight; *R*₂₊₃ very long, *R*₂ correspondingly shortened; deflection of *R*₄₊₅ punctiform; cell 1st *M*₂ with the inner end slightly narrowed; basal deflection of *Cu* beyond the fork of *M*.

Abdomen dark brown, the hypopygium yellowish. Male hypopygium with the outer pleural lobe stout, hairy, slightly darkened toward the apex, which is obliquely truncated and produced inwardly into a small tooth; inner appendage bifid, consisting of a posterior flattened blade terminating in a hook, with a single seta on its face; ventral lobe short, terminating in about two stiff setæ. Gonapophyses small, curved, strongly chitinized, in the unique type unequal.

Habitat.—Maine.

Holotype.—♂, Fort Kent, Aroostook Co., August 29, 1913. Type in the collection of the author.

Gonomyia mainensis differs conspicuously from *G. subcinerea* in its striped pleura, venation, and, especially, the very different structure of the male hypopygium.

Limmophila (Ephelia) angustior, new species.

Wings narrow, the brown markings confined to the vicinity of the veins; pleurites of the male hypopygium with a tuft of long, yellow hairs at the apex; outer pleural appendage with a prominent lateral tooth on the outer margin.

Male.—Length 6.5 mm.; wing 7.5–7.6 mm.

Female.—Length 8–8.4 mm.; wing 8.3 mm.

Similar to *L. superlineata* Doane, differing as follows:

Antennæ dark brown throughout. Mesonotal præscutum without a lateral brown line, the lateral stripes less distinct, the median stripe entire. Wings very narrow, strikingly different from those of either *L. superlineata* or *L. aprilina*. Wings light grey with a dark brown and greyish brown pattern, the costal markings relatively small, much narrower than the interspaces; the markings on the disk take the form of narrow seams along the veins and cross-veins; veins dark brown, *Sc* and *R* more yellowish. Venation: the super-numerary cross-vein in cell *M* is inserted so that it lies beyond the end of the

2nd anal vein; the wing pattern is not so heavy as in *L. aprilina*. Male hypopygium with the pleurites moderately elongated, covered with numerous setae that become very numerous along the basal inner two-thirds; outer apical angle of the pleurite a little produced and blackened, provided with a loose tuft of long, yellow hairs that exceed the pleural appendages in length. Outer pleural appendage slender, with a prominent tooth before the apex on the outer margin, distad of this with numerous appressed teeth and a small, stout apical spine. Inner pleural appendage fleshy, stout, blunt at the tip.

Habitat.—Colorado.

Holotype.—♂, Platte Cañon, Jefferson Co., altitude 10,000 feet, June 27, 1915, (E. J. Oslar).

Allotopotype.—♀.

Paratopotypes.—11 ♂ ♀.

Type in the collection of the author.

***Limnophila (Ephelia) apiculata*, new species.**

Closest to *L. angustior*; pleurites of the male hypopygium without an apical tuft of hairs; outer pleural appendage straight, without a prominent lateral tooth on the outer margin.

Male.—Length, about 6.8 mm.; wing 7.2 mm.

Very similar to *L. angustior*, differing as follows:

Antennal flagellum with the basal segments light brownish yellow, passing into darker brown on the terminal segments. Mesonotum light grey with four dark brown stripes, the intermediate pair very long and separated by a capillary vitta of the ground colour. Dark tips to the femora and tibiae less distinct. Wings slightly more yellowish, the brown pattern heavier but confined to the vicinity of the veins. Abdomen dull brownish yellow, with an indistinct, dark brown dorso-median stripe. Hypopygium more reddish. Pleurites moderately stout, without a conspicuous apical tuft of long yellowish hairs. Outer pleural appendage black, stout, the apical third along the outer margin with numerous, acute, appressed teeth, the terminal one extended into a free spine. Inner pleural appendage fleshy, pale, covered with numerous stout setae, the apex narrowed and tipped with three or four setae.

Habitat.—California.

Holotype.—♂, Alpine, San Diego Co., April 8, 1915, (M. C. Van Duzee).

Paratopotype.—♂.

Type in the collection of the author.

***Limnophila (Ephelia) edentata*, new species.**

Closest to *L. superlineata* Doane; size small, wing of the male about 6.5 mm.; first segment of the antennal flagellum yellowish; wings with a heavy brown pattern, the outer four costal blotches confluent in pairs; outer pleural appendage of the male hypopygium without appressed lateral teeth on the outer margin near the apex.

Male.—Length 5.6 mm.; wing 6.5 mm.

Similar to *L. superlineata* Doane but differing in numerous regards: Size very small. First flagellar segment of the antennae yellow, the remaining flagellar segments light brown. The median præscutal stripe is widely divided for its entire length; in addition to the narrow lateral stripes and a dark spot

at the margin of the sclerite, there is a small, brown line between the lateral and intermediate stripes that crosses the suture onto the scutal lobes. The femoral tips are broadly dark brown, but the tibial tips are but narrowly and indistinctly darkened. The wings are narrower with a much heavier pattern, the markings at Sc_1 and R_1 , and at R_2 and R_3 being confluent behind; a few brown dots in the costal and subcostal cells between the larger blotches; petiole of cell M_1 a little longer than this cell. Male hypopygium with the pleurites rather slender. Outer pleural appendage blackened, terminating in a long, curved hook whose outer margin is not minutely toothed as in many species of the subgenus; on the outer face before the tip with a stout spine; a small, blackened tubercle on the inner margin near the base of the appendage. Inner pleural appendage stout and broad, flattened, covered with numerous setæ.

Habitat.—California.

Holotype.—♂, Apline, San Diego Co., April 9, 1915, (M. C. Van Duzee).

Type in the collection of the author.

***Eriocera saturata*, new species.**

Antennæ black, the scapal segments brighter; præscutum yellowish gray with four dark brown stripes, the intermediate pair narrow; wings reddish brown; cell M_1 lacking; abdomen dark brown, the lateral margins broadly yellowish.

Female.—Length 13.5 mm.; wing 9.4 mm.

Rostrum short, light brown. Palpi black, the basal segments more brownish. Antennæ with the scapal segments yellowish brown above, reddish beneath; flagellum black. Head broad, brown, with an indistinct darker median area. Frontal tubercle dark brown.

Mesonotal præscutum yellowish gray with four dark brown stripes, the intermediate stripes very narrow, separated from one another by a distance a little less than the diameter of one; anterior portion of the scutal lobes dark; scutellum grey, with the extreme base darkened; postnotum grey. Pleura clear silvery grey, the dorsal pleural region dark brown. Halteres short, brownish yellow, the knobs dark brown. Legs with the coxæ pale brown, sparsely grey pruinose; trochanters brownish yellow; femora brownish yellow, narrowly darker at the tips; tibiæ and tarsi brown. Wings with a strong reddish brown suffusion, the colour being a little darker than in *E. californica* O. S.; a small, brown cloud on $r-m$; veins Sc and R brown, remaining veins dark brownish black; stigma indistinct. Venation: Cell M_1 lacking; vein M_{1+2} beyond cell $1st M_2$ longer than this cell.

Abdominal tergites dark brown, the lateral margins broadly yellowish. Ovipositor rusty red; sternites light brown, margined laterally with yellow.

Habitat.—California.

Holotype.—♀, Fallbrook, San Diego Co., August 2, 1917, (E. G. Holt).

Type in the United States Biological Survey collection.

E. saturata is closest to *E. velveta* Doane from which it may be told by its deep, saturated reddish brown wings with the stigma not darkened, the greater length of the veins issuing from cell $1st M_2$, the colour of the abdomen and other characters.

Tricyphona macateei, new species.

Antennæ black; mesonotum yellowish grey, the præscutum with three stripes of which the median one is divided by a capillary pale line; wings nearly hyaline with a heavy dark brown and grey pattern, the mark at the origin of the sector running into the costal cell; abdominal segments indistinctly banded with yellowish.

Male.—Length 8–8.5 mm.; wing 7.8–8.6 mm.

Rostrum and palpi dark brownish black. Antennæ dark brownish black throughout, the intermediate flagellar segments short-cylindrical or almost rounded, the terminal segments smaller. Eyes broadly contiguous beneath, widely separated above. Head small, dark grey.

Mesonotal præscutum light yellowish gray, with three brown stripes, the median stripe more or less distinctly divided by a ground vitta, this pale stripe clearer behind; scutal lobes dark. Pleura gray with indistinct blotches of darker. Halteres short, pale brown, the knobs dark brown. Legs with the coxæ dull yellow, the middle and posterior coxæ sparsely grey pruinose; trochanters dull yellow; femora brownish yellow, the tips broadly dark brown; tibiæ and tarsi dark brown. Wings almost hyaline with a heavy dark brown and grey pattern, this including about six larger markings along the costal margin, the first surrounding the humeral cross-vein, the second *Sc*₂, the third the origin of the sector, passing into the costal cell, the fourth mark at the tip of *Sc*₁; small, pale seams along the margin of the wing at the ends of the veins; narrow seams along the cord and *m*. Venation: *Sc*₂ about midlength between *h* and the origin of the sector; *Rs* very strongly arcuated at origin; cell *M*₁ shallow, its petiole longer than *m*; *m-cu* obliterated by the punctiform contact of *Cu*₁ and *M*.

Abdominal tergites indistinctly banded with dark brown and paler yellowish brown; sternites brown, the posterior half of each of the intermediate segments yellow. The male hypopygium shows the moderately powerful pleurites inclined toward one another so that the tips are contiguous, the apices with abundant blackened spicules.

Habitat.—Maryland.

Holotype.—♂, Beltsville, Prince George Co., October 7, 1917, (W. L. McAtee).

Paratopotype.—♂.

Type in the United States Biological Survey collection.

T. macateei is readily separated from *T. vernalis* (O. S.) by the uniformly dark antennæ, the almost hyaline wings with the pattern larger, darker and more clearly defined, the blotch at the origin of the sector including the costal cell, the short cell *M*₁ with a long petiole and other characters. This very interesting new species is dedicated to its collector, Mr. W. L. McAtee.

Tipula pendulifera, new species.

Belongs to the *cunctans* group; antennal flagellum dark brown; mesonotum light grey, the præscutum with four stripes; wings with a faint yellowish tinge, the stigmal region and wing-base more suffused; abdomen yellowish with a broad, dark brown median stripe; male hypopygium with a long, pendulous lobe at the ventral angle of each pleurite.

Male.—Length 17 mm.; wing 18 mm.

Female.—Length about 20–21 mm.; wing 18.5–19 mm.

Frontal prolongation of the head brownish grey. Palpi dark brown. Antennae with the scape reddish brown, the flagellar segments uniformly dark brown. Head dark grey.

Mesonotal praescutum light grey with four greyish brown stripes; scutellum and postnotum clear light grey. Pleura heavily greyish white pruinose. Halteres light brown. Legs with the coxae yellowish, sparsely grey pruinose; trochanters and femora light brown, the latter darkened at the tips; tibiae yellowish brown, the tips darkened; tarsi brown. Wings with a faint yellow suffusion; base of the wing and the stigmal region yellowish, this latter including the apex of the costal cell, the apex of cell *1st R*₁ and most of cell *2nd R*₂; costal and subcostal cells brownish; veins dark brown. Venation: Petiole of cell *M*₁ short.

Abdomen yellowish; segment eight and the basal half of nine in the male dark brown; a very distinct, dark brown, median stripe on both the tergites and sternites; on the former it begins at about midlength of the first tergite as a narrow line, gradually widening behind; these stripes are continuous except for narrow yellowish silvery posterior margins to the segments. Male hypopygium with the sclerites fused into an almost continuous ring. Eighth tergite concealed beneath the seventh, except laterally. Ninth tergite extensive, the posterior margin with a broad median notch, the lateral angles subacute, blackened; on either side of the median line is a small obtuse knob; the ventral margin of the ninth tergite bears two median blackened points. Region of the ninth pleurite long and narrow. Outer pleural appendage broad and flattened, pale, very narrow at the base. Inner pleural appendage complicated in structure. At the ventral angle of each pleurite hangs a very long, pendulous lobe, pale, directed ventrad, slightly enlarged distally and here provided with long, coarse hairs; the dorsal end of this appendage is likewise slightly produced. Between these pendulous lobes a flattened, elongate oval disk is visible.

The female is similar to the male, differing in the sexual characters; the dorsal abdominal stripe is narrower and attains the end of the seventh tergite. Ovipositor with the tergal valves straight; sternal valves very short, high, obtusely rounded at their tips, a little more than one-half the length of the tergal valves.

Habitat.—Colorado (Saguache County).

Holotype.—♂, Cochetopa National Forest, Upper Saguache Ranger Station, September 7, 1917, (A. K. Fisher).

Allotopotype.—♀.

Paratopotypes.—3 ♀'s.

Type in the United States Biological Survey collection.

T. pendulifera is a well-defined species, allied to *T. cunctans* and *T. carinata*, from which it is easily told by its larger size, and the conspicuous pendulous lobes of the male hypopygium.

***Tipula noveboracensis*, new species.**

Belongs to the *tricolor* group, closest to *T. caloptera* Lw.; antennal flagellum short, dark brown; wings with cells *M*₁, *M*₂, *Cu*₁ and most of *M*₃ brown; male

hypopygium with a powerful curved clawlike horn on either side of the median lobe of the ninth tergite.

Male.—Length, 18–22 mm.; wing, 20.5–25.5 mm.

Close to *T. caloptera* Lw., differing as follows:

Antennal flagellum short, darker, almost uniformly dark brown, the first segment a little paler.

Ground colour of the thorax, including the pleura, bright silvery white. Præscutal stripes darker, the lateral stripes more or less confluent anteriorly with the median stripe, the pale ground interspaces indicated near the suture. Wings with the brown markings darker and differently arranged: cell *1st M*₂ and the apical two-thirds of *R*₅ hyaline, cells *M*₁, *M*₂, *Cu*₁ and all but the extreme base of *M*₃ brown; in *T. caloptera* the white area includes the basal half of cell *1st M*₂, the bases of cells *M*₁, *M*₂ and *M*₃ and the apical half of cell *R*₅; the brown in the base of cell *M* is about equally extensive in the two species.

The abdominal pattern is more contrasted than in *T. caloptera*, the broad, lateral stripe being almost black; in the holotype, the ground colour of the tergites is yellowish on the first two segments only, on the remaining segments passing into grey; in the paratypes, however, the bright yellow colour persists to the fifth or sixth segments; in all cases the black, lateral stripes are narrowly connected across the caudal ends of the segments; the lateral margins of the tergites are broadly silvery, more buffy near the end of the abdomen. Male hypopygium conspicuously different from the other members of the *tricolor* group, the narrow, rectangular, somewhat depressed, median lobe with parallel sides being subtended on either side by a powerful, slightly curved clawlike horn which is sometimes slightly roughened.

Habitat.—Northeastern North America.

Holotype.—♂, Power-house Creek, near Gloversville, Fulton Co., New York, altitude 1,000 feet, June 24, 1916, (C. P. Alexander).

Paratopotypes, 2 ♂'s; *paratypes*, ♂, Ithaca, Thompkins Co., New York, May 12, 1915, (C. P. Alexander); ♂, May 24, 1898, pinned with the cast pupal skin; ♂'s, Beaver Dam, New Brunswick, June 23, 1914, (J. D. Tothill).

Type in the collection of the author.

The type and paratopotypes were found resting on small boulders projecting from the bed of a small mountain stream. The flight of these large, beautiful crane-flies is unusually vigorous for a member of this family.

***Tipula calopteroides*, new species.**

Belongs to the *tricolor* group, closest to *T. caloptera* Lw.; antennal flagellum long, clearly bicolorous; mesonotal præscutum with the stripes dull grey, not distinctly margined with darker; wings with the base of cell *M* clear.

Female.—Length about 25 mm.; wing 25.3 mm.

Close to *Tipula caloptera* Lw., differing as follows:

Antennæ longer, distinctly bicolorous, the basal enlargement of the flagellar segments dark brown, remainder of the segments yellowish.

Mesonotal præscutal stripes dull grey, very indistinct, the usual dark margins scarcely evident; the brown median vitta very distinct. Wings with considerably more pale markings than in *T. caloptera*, more nearly approaching the type of *T. strepens*; the brown in the base of cell *M* practically lacking

excepting the usual broad brown seam along *Cu* and its branches; the pale pattern includes the base of cell *1st M*₂, apical two-thirds of cell *R*₅, base of cells *M*₁, *M*₂ and *M*₃, and the centre of cell *Cu*₁.

Abdominal tergites with the dark brown lateral stripes very broad, about as wide as the yellow mid-dorsal area, this latter most distinct on tergites one to seven.

Habitat.—North Carolina.

Holotype.—♀, Canton, Haywood Co., June, 1911.

Type in the collection of the author.

Tipula manahatta, new species.

Belongs to the *tricolor* group, closest to *T. sackeniana* Alex.; antennal flagellum light yellow throughout; mesonotum reddish brown with indistinct præscutal stripes; wings with a strong fulvous tinge with scarcely any pale areas on the membrane; abdomen reddish brown without darker stripes.

Male.—Length about 15 mm.; wing 15 mm.

Frontal prolongation of the head light yellowish on the sides, darker above, indistinctly lined with brown; palpi short, brown, the basal segments more yellowish. Antennæ moderately elongated, the scapal segments brown, the flagellar segments light yellowish throughout, the terminal segment brown. Vertex dark grey; occiput and a very narrow margin around the eye paler.

Mesonotum reddish brown, the præscutal stripes very indistinct; scutellum yellow. Pleura yellowish, the mesopleuræ faintly grey pruinose. Halteres dark brown, yellowish at the extreme base. Legs with the coxæ yellowish, faintly pruinose; trochanters yellow; femora and tibiæ reddish brown throughout; tarsi dark brown. Wings with a strong greyish fulvous tinge, the costal margin and a broad seam along *Cu* very broad, rich fulvous; there are scarcely any paler areas on the membrane, the obliterative streak extending about to mid-length of cell *M*₄; cell *R*₅, and the bases of the anal cells a little pale.

Abdomen reddish brown, the sides of the first segment more yellowish; abdominal tergites very narrowly and indistinctly ringed caudally with silvery. Male hypopygium as in the *tricolor* group, the sclerites of the ninth segment fused into a continuous compressed ring. Ninth tergite with the median lobe, prominent, depressed, slightly expanded distally, reddish, the extreme posterior margin minutely spiculose; margin of the sclerites between the tergal and pleural regions light yellowish. Outer pleural appendage large, fleshy, distinctly notched at its apex, covered with short dense hairs. Inner pleural appendage subchitinized, flattened, with a deep split that separates off a posterior hook or lobule whose posterior margin is grooved longitudinally into a scrobe; posterior margin of the anterior appendage with a high, flattened carina; apex broadly rounded. At the base and ventrad of the pleural appendage is a triangular lobe which is densely covered with a short, golden yellow pubescence and, ventrally, a number of long reddish hairs. Region of the ninth sternite extensive, the adjacent margins almost continuous, from between them projecting the straight, slender penis-guard and two small oval, flattened lobes.

Habitat.—New York (Suffolk County).

Holotype.—♂, Yaphank, Long Island, September 3–4, (Charles Schaeffer).

Paratopotype.—♂.

Type in the collection of the Brooklyn Museum.

***Tipula phoroctenia*, new species.**

Belongs to the *marmorata* group, closest to *T. fragilis* Lw.; male hypopygium with the ninth tergite having a broad V-shaped notch; outer pleural appendage without a basal tooth; eighth sternite strongly projecting, shovel-like, the posterior margin shallowly notched and with a row of black, comb-like spines.

Male.—Length about 13 mm., wing 14 mm.

Similar to *T. fragilis* Lw. in most respects, differing as follows: The præscutal stripes are broader and less distinct, the intermediate pair extending a little farther cephalad, the grey thoracic interspaces narrower. The wings are a little narrower, with the dark pattern less distinct. The abdomen is light yellow with a narrow, dark brown sublateral stripe and silvery grey lateral margins. The ninth tergite and the sixth to ninth sternites are dark brown. The most conspicuous differences are to be found in the structure of the male hypopygium, the ninth tergite of which has a broad, posterior V-shaped notch the caudal margin blackened, with the lobes running out into slender, chitinized points, the space between with a few smaller elevations; lateral notches extensive, not so deep as in *T. fragilis*. Outer pleural appendage long, slender, somewhat flattened, without a distinct chitinized basal ridge or tooth as in most other species of the group. The fleshy lobes that arise near the ventral angle of the pleurites are very large so that they practically fill this portion of the opening of the genital chamber; they are pale reddish, covered with a short, dense pale pubescence. Ninth sternite with a broad square notch, from the base of which projects a stout, reddish rod, presumably the penis-guard. Eighth sternite extensive, projecting, the posterior margin nearly truncated with a very shallow notch, set with a row of short, black spinous teeth; extreme posterior lateral angles of the sternite with a few long yellowish hairs.

Habitat.—Maine.

Holotype.—♂, Orono, Penobscot Co., in a bog at the edge of a wood, October 3, 1913, (H. M. Parshley).

Paratopotype.—♂, indoors, October 16, 1913.

Type in the collection of the author.

***Tipula nebulipennis*, new species.**

Belongs to the *marmorata* group, closest to *T. fragilis* Lw.; legs mostly brown with only the femoral bases yellowish; male hypopygium having the caudal margin of the ninth tergite with two flattened divergent lobes separated from one another by a very small notch; outer pleural appendage with a subacute shiny chitinized tooth; eighth sternite slightly projecting, the posterior margin with a broad, U-shaped median notch.

Male.—Length 12–13 mm.; wing, 12.2–13.5 mm.

Frontal prolongation of the head dark grey, the sides more brownish. palpi short, brownish black. Antennæ with the scape yellow, the flagellum brownish black; flagellar segments only slightly enlarged basally. Head grey.

Mesonotal præscutum light grey with four brown stripes, the intermediate pair becoming indistinct anterior to the level of the pseudosutural foveæ; scutal lobes largely brown; scutellum and postnotum light grey. Pleura grey, clearer and lighter posteriorly. Halteres brown, the extreme base yellow. Legs with the coxæ light grey; trochanters light yellow; femora yellowish basally, soon passing into brown, the tip narrowly darker brown; tibiæ with the basal half light brown, the apical half darker brown; tarsi dark brown. Wing pattern and venation about as in *T. fragilis*, the stigma paler brown.

Abdomen with the first tergite grey pruinose, the other tergites brown with a broad, dark brown sublateral stripe, ringed posteriorly with yellowish, these rings broadest on the basal segments, becoming indistinct about the seventh segment; sternites one to five bright yellow, the basal segments a little darker laterally; remaining sternites dark brown. Male hypopygium with the ninth tergite rather large, divided into two apparent halves by a mid-dorsal impression; each half is produced caudad into an inner flattened lobe, separated from its mate of the opposite side by a very small and narrow notch, the lateral angle of each lobe slightly produced and with a few stout black setæ; the tergite is dark, the lateral margins yellowish, the apical lobes orange yellow and provided with a short, dense pubescence. Outer pleural appendage large, greyish, slightly curved, the outer face with appressed black hairs; near the base of the appendage a shiny, flattened, chitinized tooth. Inner pleural appendage compressed, flattened, extensive, near its base forming a cup-like hollow. An enlarged, dark-coloured, fleshy lobe provided with numerous pale hairs lies on either side near the ventral angle of the pleurite, extending dorsad along the opening of the genital chamber; the outer basal margin of this lobe is light yellow in colour. Eighth sternite slightly projecting, the posterior margin with a large, shallow, broadly U-shaped notch, the lateral angles of which are provided with long whitish hairs, the outer basal margin of this lobe minutely spinulose, light yellow beneath.

Habitat.—Labrador.

Holotype.—♂, Battle Harbour, August 1, 1912, (G. P. Engelhardt).

Paratopotype.—♂.

Type in the collection of the Brooklyn Museum.

Tipula fragilina, new species.

Belongs to the *marmorata* group, closest to *T. fragilis* Lw.; legs darkened, the femora with a broad, yellowish subterminal ring before the black tip; male hypopygium having the ninth tergite with a wide V-shaped notch; outer pleural appendage with a blunt, blackened basal lobe; eighth sternite carinate, the posterior margin with a very deep and narrow median notch, the margins contiguous or nearly so and provided with long, yellowish hairs.

Male.—Length about 13 mm.; wing 13.3 mm.

Female.—Length about 13 mm.; wing 13 mm.

Generally similar to *T. fragilis* Lw., differing as follows: The intermediate stripes of the præscutum are broader and extend further cephalad; the ground colour between the intermediate and lateral stripes narrower. Pruinosity of the pleura darker. Legs darker, the black femoral tips broader and with a

distinct yellow subterminal ring. Hypopygium darker coloured. The most striking differences between this and the related regional species are found in the male hypopygium, as follows:

Ninth tergite dark coloured, with a deep, impressed mid-dorsal line; posterior margin with a wide V-shaped notch, the lateral lobes formed terminating in blackened chitinized points, the lateral notches only slightly concave, larger and not so deeply rounded as in *T. fragilis*. Outer pleural appendage long, slightly flattened, not as stout as usual in the group, pale, almost white in colour, the basal third slightly contracted and produced proximad into a blunt, blackened lobe. Inner pleural appendage a pale, almost white, compressed blade, on the posterior margin near the base bearing a small knob provided with numerous short, black setæ. At the ventral angle of the pleurite, jutting dorsad across the face of the genital chamber as a long, slender, slightly sinuous lobe tapering to a point, densely covered with white hairs; this structure is considerably larger than the corresponding one in *T. fragilis*. Ninth sternite with a deep notch which is slightly enlarged at its base, the sides parallel or nearly so. Eighth sternite compressed, with a very deep median notch, the adjacent lobes contiguous apically, though separated basally, provided with long, yellow hairs. In *T. fragilis*, the eighth sternite is spade-shaped, unnotched.

Habitat.—Alaska. (Iditarod River Country).

Holotype.—♂, Flat, September 6, 1917, (A. N. Twitchell).

Allotype.—♀, Bethel, September 24, 1917, (A. N. Twitchell).

Type in the United States Biological Survey collection.

***Nephrotoma euceroïdes*, new species.**

Generally similar to *N. eucera* (Lw.) from which it differs as follows: Average size much smaller (male, length 14–14.2 mm.; wing 13.8–15 mm.). Male antennæ with only 17 evident segments. Thoracic stripes distinct, reddish brown, much darker than in *N. eucera*. Wings with a more greyish yellow tinge, the stigma poorly defined, pale. Abdomen darker, brownish yellow, the hypopygium brown. Male hypopygium with the ninth tergite having the caudal margin evenly rounded with a small, narrow median notch whose nearly contiguous lateral angles are produced beneath into blackened lobes which are densely spiculose. Eighth sternite with a broad, deep posterior notch, the median area of the sternite not so densely hairy as in *N. eucera*.

Habitat.—Northeastern North America.

Holotype.—♂, Sport Island, Fulton Co., New York, altitude 750 feet. June 16, 1910, (C. P. Alexander).

Paratype.—♂, Perth, New Brunswick, June 15, 1915, (F. M. McKenzie).

In general appearance, *N. euceroïdes* is very similar to *N. breviorcornis* (Doane) from which it is most easily told by the number and structure of the antennal segments.